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ABSTRACT

A report is given of a three year project in which a system of classroom management designed to develop the ability of elementary school children to function at their maximum capacity in the classroom was implemented and tested. Great emphasis was placed on the use of motivational strategies, reinforcement techniques, involvement of students in classroom management, established routines, and a sound working relationship between teacher and students. Excerpts from the manual used by teachers participating in the project and tables displaying student improvement over the three year period are included in the report. (JD)

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DEVELOPING INTERNAL STRUCTURE IN ELEMENTARY SCHOOL STUDENTS
A SYSTEM OF CLASSROOM MANAGEMENT AND CLASS CONTROL

In the spring of 1977 the elementary school faculty of The University Laboratory School, Louisiana State University, received a three-year ESEA Title IV-C grant to develop and test a system of classroom management designed to develop "internal structure" in elementary school students. The first year it was implemented in the six elementary classrooms of The University Laboratory School. During the second year the project was expanded to include one classroom in a parochial school. During the third year it was expanded to include six classrooms in a Title I school in East Baton Rouge Parish.

The Study

Introduction:

Precisely at 8:30 the teacher approached her usual teaching station in the classroom as the students arrived for the day. The clock, visible to all, ticked away---9:25. All the time allotted for the lesson had been used, yet little learning had taken place. Why?

The teacher had a clearly stated objective, access to necessary materials, and a unique motivational device. What had caused the lesson to fail?

A careful examination of the unfolding of the preceding hour revealed an all too familiar picture. Minutes ticked away while the students milled around putting away their personal belongings and exchanging greetings. Amid some casual conversation the teacher gave her directions for the first period's work and began to distribute materials. Confusion arose. Offers to help came from all parts of the room. Some pupils went to sharpen their pencils. Others were borrowing pencils and paper. The teacher's call for order was

ineffective. Again she gave the directions. A few began the assigned task in earnest. Hands went up to question. The expression, "I don't know how to do it," was heard. Again and again, "Teach," "Show me," "This is too hard," sprang from all parts of the room. Frantically the teacher tried to reach each child individually. -----"I've finished." "Where do I put my paper?" "What do I do now?" From another part of the room---"But I haven't finished." "Do I have to do it?" 9:25. The lesson was over. There was little time to learn. There was no time to teach.

The elementary faculty of the University Laboratory School does not believe that this, too prevalent, situation has to exist.

Purpose:

Brainstorming sessions by the faculty resulted in the unanimous agreement that today's child lacks an element in his development which makes it difficult for him to function at his maximum capacity in the classroom setting. This element was labeled "internal structure"--or, a mental model of the child's environment as a place where there is an expected mode of behavior for every situation.

The question arose, "Can the school develop this element, "internal structure;" in elementary school students?" The faculty arrived at the hypothesis that it can be developed through a system of classroom management procedures and techniques which must be sequentially and consistently applied.

Method:

During July, 1977, the six members of the elementary school faculty met and prepared a manual of school and classroom management

procedures and techniques which were to be sequentially and consistently applied in all the elementary classrooms. Great emphasis was placed on the use of motivational strategies and reinforcement techniques.

In preparation for developing the manual, the faculty reviewed its basic philosophy of education in regard to classroom management and class control. The following generalizations were agreed upon as being pertinent to the study:

1. All people have certain rights.
 - a. Teachers have a right to teach.
 - b. Students have a right to learn.
 - c. No person has the right to prevent another from teaching or learning.
2. Classroom management and control techniques and procedures should include the following:
 - a. a concern for the student and his changing self image,
 - b. an emphasis on the positive,
 - c. an active involvement of the students in classroom management procedures.
3. The keys to the success of any program are the consistency with which it is applied and the working relationship between the teacher and the students.
4. A sound classroom management plan should include
 - a. established routines,
 - b. standards of work,
 - c. opportunities for choice making,
 - d. limits.

5. The elementary school is a time when life-long attitudes and habits are formed.

Secondly, the faculty identified basic characteristics that are outward manifestations of "internal structure." From that list five characteristics were selected because of their appropriateness for elementary school students and their applicability to life outside the school.

The characteristics chosen were the following:

1. functioning within time and routine structures,
2. following directions,
3. displaying acceptable social behavior,
4. Completing assignments in terms of the requirements,
5. making choices which can be successfully completed.

The manual was designed to develop these characteristics in the students. Specific expected behaviors were defined for each characteristic. General procedures for the teachers to use in developing the behaviors were listed. These procedures were geared toward making the school a pleasant, comfortable place to work and learn. Specific techniques were suggested for developing each behavior. Emphasis was placed on letting the students know the routines, rules, expectations, and limitations. Student involvement in establishing the rules and routines was an important part of the process. Since consistency is the key to the success of the program, follow-up procedures were described with rewards and penalties. The program stressed placing the responsibility for learning, whether it be skills, content, attitudes, or patterns of behavior, on the student. It defined the work of the teacher as a facilitator who makes it possible for the student to

learn, who lends support and help at the same time setting standards and limits, and who holds the student accountable for his actions. The accent is on the positive with rewards for work well done. Penalties are included for a student failing to accept his responsibility.

Learning could have taken place in the class described above had the teacher used the following specific techniques which were drawn from "A Manual of Procedures and Techniques for Developing Internal Structure in Elementary School Students," the result of the work of the elementary school faculty. In the following excerpts from the manual, a desired student behavior has been stated. After it are several specific techniques to be used by the teacher to develop this behavior.

I. Functioning within Time and Routine Structures

B. General Procedures to be followed

5. Teacher and students will cooperatively establish management routines and procedures to include

- a. Early morning routines
- b. Systematic morning opening activities
- c. Signals for getting attention
- e. System for turning in completed work

- C. Specific techniques to be used to help students develop time and routine structures.

2. Is in the classroom and ready to work by the designated time

- a. To insure that the student completes before school the duties the teacher will
 - 1) Post and discuss the routine and duties

- 2) Supervise the performing of the duties
- b. To encourage punctuality the teacher will
 - 4) Hold student responsible for plans or work missed
- 3. Brings in materials and supplies on time
 - c. Set reasonable time for bringing in materials
 - e. Supply essential materials, such as paper and pencil in emergencies
 - g. Deny student participation in the class activity if he did not bring in his materials
 - 1) Have student sit in a "do-nothing" chair for a warranted length of time during the activity
 - 2) Plan an alternative assignment
- 4. Begins assigned tasks promptly
 - b. Make sure that the student is aware of the purpose and understands the directions and criteria of evaluation before beginning the tasks
 - c. Structure assignments in stages--beginning with short, simple tasks and then progressing to longer and more complex tasks
 - d. Make assignments as varied and interesting as possible
 - e. Give special recognition to early starters
- 5. Completes assigned tasks by the designated time
 - e. Allow students to progress to more interesting optional activities when assignments are completed

- f. Provide a daily "opportunity time" to
 - 1) Complete required task
 - 2) Make "free time" choices
- h. Award "bonus time" to a student, a group, or the entire class for finishing within time allowed
- 7. Promptly pays attention when cues are given
 - a. Have and use a definite system of cues for various class routines and procedures
 - c. Be consistent in using established routines and signals

II. Following Directions Accurately

- B. General procedures to be followed in enabling a student to follow directions promptly and accurately
 - 1. Establish the rule that directions will be given only once
 - 2. Use attention-getting signal or cue
 - 3. Be consistent and precise in giving directions
- C. Techniques to be Used in Teaching a Student to Follow Directions Accurately
 - 1. Listens attentively to person giving directions
 - b. Remains attentive while directions are being given
 - 1) Use the attention-getting cues formulated
 - 5) Isolate student disturbing others; allow consequences to follow

- 6) Plan directions that
 - a) Recognize varying attentive capacities and comprehension levels
 - b) Keep directions to a minimum
 - c) Clarify terminology
- 7) Motivate students to remain attentive through
 - a) Involving students
 - b) Proper pacing
 - c) Vocal intonation
 - d) Visual effectiveness of body language and instructional materials
 - e) Avoid "over-directing"
 - f) Using suitable interaction cues

IV. Completing and evaluating assignments in terms of expected requirements established for individuals and groups

- B. General procedures to be followed in enabling students to complete assignments in terms of requirements established for individuals and groups
 2. Provide an appropriate classroom setting in which
 - a. Necessary materials are easily available
 - b. Distractions are minimized
 - c. Visual aids are arranged to channel the students' interest and attention in desired direction
 - d. The room is arranged to facilitate movement, provide room for anticipated activities, and present attractive appearance

C. Specific techniques to be used to enable a student to complete assignments in terms of requirements established for individuals and groups

1. Completes the assignment according to specifications

- a. Make sure the student understands the purpose, requirements, and the criteria for evaluation of the assignment
- b. Have necessary materials available for the student
- c. Supervise work period
- d. Give help before student becomes frustrated
- e. Have definite system for checking work to give student frequent feedback
- g. Reward correct work
- h. When deemed appropriate, require the student to complete unfinished work at "opportunity time" or as homework before he moves to next assignment

To insure that the teachers consistently applied the procedures and techniques described in the manual, the faculty developed an observation form and employed outside observers to check the teachers' consistency. The faculty felt that the techniques in the manual would have to be applied at least 90 percent of the time for the program to be effective. Originally four observations were made in each classroom each week, and the observers were anonymous. During the third year the number of observations was reduced.

Though the program involved the total school day and all academic areas, for experimental purposes progress in mathematics computation and changes in self-concept were the only areas checked. Each

year every student was pre- and post-tested in mathematics computation using the Stanford Achievement Test. The test scores were compared to determine the year's progress. The project's goal was to have 75 percent of the students make one month's progress in mathematics computation for each month of instruction. Each year every student was pre- and post-tested in self-concept using the Primary Self-Concept Scale for grades 1-3 and How I See Myself for grades 4-6. The scores on the pre- and post-tests were compared to determine change in self-concept. The faculty anticipated a significant positive change in self-concept.

During July, 1978, and again in July, 1979, the manual was reviewed and revised. A teacher from a parochial school worked with the Laboratory School faculty during July, 1978 and 1979. In 1979, a workshop was held to train the six teachers from the Title I school who would be involved in the program during the 1979-80 school year

During the 1979-80 school year the program was continued at The University Laboratory School and the parochial school and was implemented in the Title I school. The University Laboratory School teachers supervised the Title I teachers bi-weekly to evaluate the consistency of the implementation of the program and to give help where it was needed. Title I teachers and teachers from two parochial schools visited The University Laboratory School to see the project in operation.

May, 1980, marked the end of the experimental phase of the program. During June, 1980, the data was analyzed, conclusions were drawn, and a summary of the conclusions was prepared for publication. Findings:

Student responses from pre- and post-tests in mathematics computation and self-concept were tabulated. The following tables reflect an analysis of the data collected. Table I shows the percent of students in each class achieving one month's growth in mathematics computation for each month of instruction for each year of the experiment. Table II shows the average stanine for each class for each year. Table III reflects an analysis of the self-concept scores for each year. Table IV shows the standard deviation as identified by the pre-test in mathematics computation.

Table I

Objective: 75 percent of the students involved in the project will achieve one month's growth in mathematics computation for each month of instruction as measured by pre- and post-administered forms of a standardized achievement test.

Grade & School	Number of Students			Percentage of Students scoring one month's growth for each month of instruction			Objective Achieved		
	77-78	78-79	79-80	77-78	78-79	79-80	77-78	78-79	79-80
Lab.									
1	25	25	24	76.0	72.0	95.0	yes	no	yes
2	27	24	28	59.2	29.2	96.0	no	no	yes
3	25	25	28	72.0	96.0	96.0	no	yes	yes
4	28	29	29	100.0	100.0	72.0	yes	yes	no
5	29	29	30	44.8	93.7	87.0	no	yes	yes
6	26	29	20**	88.4	89.7	48.0***	yes	yes	no
Total	160	161	159	73.4	89.0	83.0	no	yes	yes
Parochial									
5		30	27		76.2	81.0		yes	yes
Title I									
1			18			41.0			no
2			18			79.0			yes
3			19			47.0			no
4			17			61.0			no
5K			22			80.0			yes
5S			28			40.0			no
Total			122			63.0			no
Grand Total	160	191	308	73.4	80.0	76.0	no	yes	yes

*Test not valid.

**10 students not included because pre-test score too high to show growth.

***Unstable testing situation existed.

Table II

Mathematics Computation - Average Stanines

Grade & School	77-78		78-79		79-80	
	Pre	Post	Pre	Post	Pre	Post
Lab.						
1	*	7	*	6	*	6
2	6	*	6	*	*	6
3	3	4	4	6	6	7
4	4	6	3	5	6	6
5	4	4	4	7	5	6
6	4	6	4	5	7	7
Total	4	5	4	6	6	7
Parochial						
5			4	5	6	6
Title I						
1					*	4
2					4	4
3					5	3
4					3	4
5K					3	4
5S					4	4
Total					3	4

*Not available

Table III

Objective: 80 percent of the students involved in the project will show significant positive change when administered pre- and post-copies of standardized self-concept scales.

Grade & School	Number of students			Mean pre scores			Mean post scores			Change		
	77-78	78-79	79-80	77-78	78-79	79-80	77-78	78-79	79-80	77-78	78-79	79-80
Lab.												
1	24	25	25	13.88	12.96	12.84	14.04	14.24	13.95	+ .17	+1.28	+1.11
2	27	21	28	13.59	14.14	14.96	14.88	14.38	14.50	+1.01	+ .24	- .40
3	25	28	28	14.08	13.32	14.50	13.32	15.71	13.78	- .76	+ .39	+ .46
4	28	29	29	149.07	144.93	158.96	145.82	142.44	158.27	-3.25	-2.49	- .65
5	28	29	30	153.82	151.72	143.76	150.71	149.62	145.60	-3.11	-2.10	+1.84
6	28	27	27	150.46	154.22	151.18	149.71	154.92	149.74	- .75	+ .70	-1.43
Parochial 5		26	31		145.66	142.16		147.23	152.09		+1.57	+9.93
Title I												
1			17			15.29			15.76			+ .47
2			16			14.43			14.00			- .43
3			18			14.33			13.66			- .66
4			19			153.31			149.68			-3.63
5K			22			151.45			148.18			-3.26
5S			27			150.22			148.11			-2.10

Table IV

Mathematics Computation Scores - Standard Deviation, Pre-Test

Grade	School	77-78	78-79	79-80
1	Lab.	.27	.66	.58
1	Title I			*
2	Lab.	.65	.68	.59
2	Title I			.53
3	Lab.	.46	.48	.86
3	Title I			.50
4	Lab	1.14	.83	.76
4	Title I			1.05
5	Lab	1.05	1.08	1.22
5	Parochial		1.15	1.04
5K	Title I			.85
5S	Title I			1.09

*Not available

Conclusions:

Functioning within the structured environment of the described project has improved mathematics computation.

Data in Table I reveals that during the second and third years of the study, 75 percent of the elementary students in The University Laboratory School made one month's progress for each month of instruction in mathematics. Also it should be noted that with the exception of one grade level, greater progress was shown during the third year than was shown during the second year.

An analysis of Table II indicates the following:

1. There was a steady rise in class stanines.
2. Between the end of the 1977-78 year and the beginning of 1978-79 year most classes had a one stanine drop, indicating a loss of skills during the summer.
3. Between the end of the 1978-79 year and the beginning of 1979-80 year there was no drop in stanine, indicating little or no loss of the skills during the summer.
4. The pre-test stanines are higher for the third year indicating an overall growth in mathematics computation.

The faculty contends that these changes are the result of the development of "internal structure" in the students. Mathematics is an exact science requiring orderly, organized thought processes. The longer the students were exposed to the structured environment the stronger the "internal structure" factor became. Also pre-test scores were higher because the students better understood the need for different behaviors for different situations and were readily able to perform successfully under testing conditions.

Table III indicates that there was no significant change in self-concept during the three-year period of the study. The faculty's idea that the students had poor self-concepts was incorrect. In fact most self-concept scores were high.

Subjectively, the faculty considered the project a success. Teachers found that they had more time each day to teach because they were spending less time on routines, on giving directions, and on discipline problems. The students knew what was expected of them and the consequences of their actions. The students responded favorably to the program. They were calmer and better able to adapt to unexpected changes. They expressed pleasure in knowing what was going to happen, where it would happen, and what the consequences were. In other words, they felt secure. They responded positively to the system of rewards especially to the free time they could earn. They exhibited more acceptable social behavior during times of superior performance as well as when experiencing disappointment.

By the third year of the project the students had accepted the program. Classes were organized and functioning smoothly the first week of school. The students knew that they were responsible for their actions. They tuned into work quickly, brought in materials on time, and completed the work according to directions.

At first the teachers felt that they were robbing some academic areas to provide a daily free period to be used for reward or work. As the years passed the teachers found that the students could and did accomplish more in a shorter time period. Therefore less of the free period or opportunity period was needed for punish or catch-up work and more time could be spent on enrichment or individual interests.

The faculty believes that this program can be used with any school population. This assumption is based on experiences gained from working with the Title I school. Self-concept scores from both schools were approximately the same. Pre-test mathematics computation stanines at the beginning of the project were the same for both schools. Standard deviation (Table IV) was slightly greater in The University Laboratory School than in the Title I school.

